Attachment A

Bundling of Actions for Environmental Documentation, Project Purposes, and Alternatives Considered in EIR/EIS

In order to assure a balanced implementation of the proposed south Delta improvements it will be necessary to initiate and conduct planning studies on several fronts simultaneously. In all cases, a final decision on action implementation can only be made after all requisite environmental documentation and review has been completed. Documentation requirements for actions which affect the environment can range from categorical exemptions to full project EIR/EIS documentation. These various levels of documentation will cover ecosystem restoration, water quality improvements, new export fish screens, gates, and appurtenant facilities, dredging, local agricultural intake modifications, barrier construction, and so on.

The decision on how these actions are grouped is closely related to the project purposes for the environmental documentation and permits process. Multiple objectives must be met when designing the project level action bundles: Achieving geographic and programmatic balance; providing assurances to various stakeholders that their needs will be met; and developing practical bundles for which timely and efficient completion of the planning process is achievable.

The following table lists DWR staff recommendations for one of the bundles, which would include SWP and CVP screening, SWP export capacity, barriers, and related actions.

Recommended Actions to Include in SDI Facilities Bundle

Action	**Yes**	**No**
Northern CCF Intake and Fish Screens	X	
CVP/SWP Intertie Between Export Pumps		X
CVP/SWP Intertie Between DMC and CA Aqueduct		X
Dredge Old River, south Delta channels, Grant Line Canal	X	
Intake Operations	X	
Fish Salvage Operations	X	
JPOD		X
SWP Operations Prior to Completion of new intake screens	See section below on Item 24	
SWP Operations after completion of intake screens	X	
Ag and wetland diversion screening	If yes, how much?	

Aquatic and Habitat Restoration Targets	If yes, project purpose option 1, below, will be used	
Regional Monitoring	X	
Water Quality	X	
Consolidate and Extend Ag Diversion	X	
SJR and Trib Management for WQ	Existing operations	
HOR operations	Use multiple barrier dates	
Flow structure operations	X	
Flow structure monitoring	X	

Project Purposes

The components included in the SDI Facilities Bundle is closely related to project purpose statement The Policy Group has three options:

1. Include an "ecosystem recovery" component.
2. Address only the recovery of San Joaquin fall-run chinook salmon (and installation of the Head of Old River fish structure) in the project purpose statement.
3. Exclude all "ecosystem recovery" actions in SDIP purpose statement, an address ecosystem recovery in another environmental document. (This option considers the Head of Old River fish structure as mitigation for SWP and CVP operations).

Comments from EPA in the 1996 ISDP DEIR/EIS recommended a purpose statement that included protection for the San Joaquin River fall-run chinook salmon. DWR/Reclamation, the lead agencies for SWP/CVP facilities improvements, considered the Head of Old River fish structure to be mitigation; therefore, actions to install the structure were not added to the purpose statement.

The Corps has recommended revising the project purposes to include "ecosystem recovery", as follows:

> "The purpose of the South Delta Improvements Project is to improve the reliability of existing State Water Project facilities and operations within the South Delta, while ensuring that water of adequate quantity and quality is available for diversion to beneficial use within the South Delta Water Agency's service area; and to contribute to the recovery of the biological integrity of the aquatic ecosystem within the South Delta Region."

The "recovery of the biological integrity" (recovery) wording in the Corps' purpose statement addresses both EPA's recommendation and the actions listed in lines 30-42 in the *Features of the SDI Alternatives* table. If the Policy Group decides "recovery" is too broad in scope for SDIP, yet wants to address EPA's recommendation regarding San Joaquin salmon, then the last lines of the purpose statement could be: "contribute to the

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protection of San Joaquin fall-run chinook salmon migrating through the lower San Joaquin River." If the Policy Group decides that recovery should be covered in another environmental document, and that the HOR fish barrier is mitigation, then the phrase "and to contribute to the recovery . . . within the South Delta Region" could be removed.

Ecosystem Recovery Actions

The *Features of the SDIP Alternatives* table lists over 40,000 acres of habitat protection, restoration, and creation in the south Delta bundle, to be implemented over a 30-year period. If ERP actions and other recovery actions are included in SDIP, multi-agency coordination and consensus is essential for successful evaluation and implementation of ecosystem recovery actions. The Policy Group must identify which CalFed agencies will perform the following work:

- Select which actions and in which locations are actions to be completed for SDIP
- Formulate alternatives in the 404(b)(1) Alternatives Analysis
- Locate willing sellers
- Preparing feasibility level design plans for inclusion into the SDIP 404(b)(1) Alternatives Analysis and the SDIP DEIR/EIS.

Project Alternatives to be Included in New DEIR/EIS

During the 404(b)(1) Alternatives Analysis and ISDP DEIR/EIS, fishery agencies had requested full evaluation of several alternatives that were considered "fish friendly." These alternatives were:

1. Reduction of CVP/SWP Exports and Management or Reduction of Demand for SWP Water
2. Modification of CVP/SWP Exports, Consolidation and Extension of Agricultural Diversions, and Improvement in SWP Pumping Capability
3. Northern Forebay Intake, an Intake at Italian Slough, and South Delta Flow Control Structures
4. An Intake at Italian Slough and South Delta Flow Control Structures
5. Expanded Existing Intake and South Delta Flow Control Structures

The ISDP 404(b)(1) Alternative analysis showed that only Alternatives 3 and 5 met the project purposes, yet all five alternatives were carried into the DEIR/EIS at the request of the fishery agencies. This created confusion for reviewers, decision-makers, and the Corps.

SDIT took the best features from the "fish friendly" alternatives and created a "Single Barrier" and a "Multiple Barrier" Alternative; thus superceding the five alternatives. Both of these alternatives will meet the new SDIP project purposes. Even with the new

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and expanded project purposes the "fish friendly" alternatives should not be evaluated in the EIR/EIS, as explained in the following table.

Alternative	Analysis Summary
1,2	Both contradict the objective of increasing the flexibility of SWP exports, and therefore do not meet the SDIP project purposes.
3	Meets project purposes, however, northern intakes are preferred by CalFed and SDIT analyses.
4	Does not meet purposes of SDIP. The intake at Italian Slough can only handle 2,300-cfs, and, without an additional intake would prevent the SWP from even reaching its current pumping capacity.
5	Meets project purposes, however northern intakes are preferred by CalFed and SDIT analyses.

DWR recommend including an analysis of these in the 404(b)(1) Alternatives Analysis, but not including these alternatives in the new DEIR/EIS.

DWR staff recommends following the Corps' 404(b)(1) guidelines. This allows decision-makers to review the following CalFed and SDIT alternatives that meet project purposes:

1. Single Barrier Alternative (Head of Old River)
2. Three Barrier Alternative (Head of Old River, Middle River, and Old River at Tracy)
3. Four Barrier Alternative (Head of Old River, Middle River, and Old River at Tracy, and the Grant Line Canal Barrier)

Two intake structure locations would be evaluated and one would be selected for evaluation in the EIR/EIS:

1. Northeastern intake
2. Northwestern intake (Byron Tract)

If included in SDIP, recovery actions may vary with each "barrier" alternative.

Assumptions, Project Phasing, Mitigation, Adaptive Management, and Phased Decision Making

South Delta Improvements Assumptions

The description of the SDI element of Stage 1 was developed based on the following assumptions:

- An "Environmental Water Account" (EWA) will be established and controlled by the fish and wildlife agencies. The EWA will have assets of sufficient quality and quantity of assets to ensure, in conjunction with the other components of the SDI element of Stage 1, progress toward recovery of listed fish. A portion of the new water supplies developed through the SDI element will be dedicated to the EWA.

- A bundle of ERPP actions will be implemented during Stage 1 including; 1) a diversion screening effort for agricultural diversions in the south Delta, 2) the restoration of large contiguous expanses of tidal emergent wetland, tidal perennial aquatic habitat, and Shaded Riverine Aquatic Habitat in the Lower San Joaquin River and South Delta area, 3) restoration of large expanses of seasonal wetland and riparian habitat and, 4) management of areas as wildlife friendly agriculture in the Lower San Joaquin River and South Delta area.

- A bundle of actions from the Multi-species Conservation Strategy will be implemented in the Lower San Joaquin River and South Delta area during Stage that will help ensure recovery, contribute to recovery, or maintain species and habitats. Actions would include restoration of riparian areas for the riparian brush rabbit, and wetlands for Mason's lilaeopsis, and other species of concern.

- All components of the SDI element of Stage 1 will be addressed in the tiered SDI environmental document and all necessary permits will be obtained prior to implementation of the project.

- The actions in the ERPP and Multi-species Conservation Strategy bundles will be addressed in tiered environmental documents, necessary permits obtained, and implemented concurrently with implementation of the SDI element of Stage 1.

Project Phasing

Flow control structure construction, dredging and diversion extensions, construction and operation of the new intake, and provisions to allow the SWP export pumps to exceed current permitted pumping rates will be phased to ensure the goals of SDI are achieved as soon as possible while providing water supplies for south Delta farmers during project implementation.

Head of Old River Fish Control Structure

Following completion of the appropriate project specific environmental documentation and permitting, final design and construction of the Head of Old River (HOR) Fish Control Structure as an "operable" structure will begin. Prior to the completion of the structure, the temporary installation of a temporary rock barrier would be permitted at the Head of Old River. The current permit for barrier installation expires after the year 2000 operational

season. An extension will be required to cover the interim period until construction of the permanent barrier is completed.

Middle River and Old River at Tracy Flow Control Structures

Following completion of the appropriate project-specific environmental documentation and permitting, final design construction of the two Flow Control Structures as "operable" structures in Old River at Tracy and Middle River, would begin. Prior to the completion of the structures, the temporary installation of temporary rock barriers would be permitted in Old River at Tracy and in Middle River (requiring current permit extension, as noted above). Prior to operation of the flow control structures a Barrier Operation Coordination Team (OCT) chaired by the fisheries agencies would be formed and funded by CALFED. The OCT will include representatives of south Delta agricultural interests and will participate as needed in Operations Group meetings. The OCT would report to the CALFED Ops Group and would follow the same dispute resolution process established for that body.

Agricultural Water Supplies in Grant Line Canal

Following completion of the appropriate project specific environmental documentation and permitting, Grant Line Canal will be selectively dredged and agricultural diversions extended as appropriate. Prior to the completion of the dredging and diversion extensions, the installation of a temporary rock barrier would be permitted in Grant Line Canal upstream of the Tracy Boulevard Bridge (this will require extension of the current temporary permit, as noted above). All agricultural diversions in Grant Line Canal and any other diversions that are extended will be screened by the end of Stage 1. Prior to screening, water diversions will be allowed through those diversions. An Operations and Maintenance Team (OMT) for those screened agricultural diversions will be established and funded beginning in 2001.

Implementation Schedule

The following table summarizes a proposed permanent barrier completion schedule, based on current DWR staffing:

Action	Start	Finish
Complete SDIP EIR/EIS	May 1999	August 2000
Begin Final Design. Develop plans, specification, bid work, award contracts	August 2000	June 2002
Construction of Barriers at HOR, MR, ORT	June 2002	January 2005
Dredging Activities in South Delta Channels, Extend and screen diversions	August 2002	February 2004

The extension can be either handled separately from SDIP (as it is done today) or it can be included in the SDIP environmental documentation. Does CalFed have a preference on how the extension of the TBP is to be obtained?

Conveyance Facilities

Construction of the new intake and screens at the SWP and the potential new screens at the CVP will occur over the course of Stage 1 and will not be completed until early in Stage 2. Until they are completed and interim decisions made about whether to retain two separate diversions in the south Delta or combine them into one diversions at the SWP, a phased implementation approach is warranted. Such an approach will allow construction to begin on a new intake on Byron Tract on Old River and siphon under Italian Slough early in Stage 1.

Following an evaluation of the new 500 cfs Tracy Test Facility, a 2,500 cfs fish screen module would be constructed on the new intake. Subsequent modules would follow based on experience with the first module. A fish salvage facility will be constructed concurrently with the 2,500 cfs fish screen.

The intertie designed to convey approximately 400 cfs between the CVP Delta Mendota Canal and the SWP California Aqueduct will be constructed during Stage 1.

Operations

Operational changes will also be phased during Stage 1 to achieve 10,300 cfs. Phasing will allow sufficient time to gain operational experience with increased diversions, using the current radial gates, and their effect on the availability of water supplies for south Delta farmers, first with temporary barriers in the early part of Stage 1 and later with operational flow control structures in Old and Middle rivers and diversions extended in Grant Line. Late in Stage 1, the effects of using the first screened module on the new intake with low lift pumps will be assessed.

Diversions of up to 8,500 cfs will be allowed through the existing radial gate intake immediately following the completion of the appropriate project specific environmental documentation and permitting. Diversions up to 10,300 will be allowed only when the first screen module of 2,500 cfs is completed, associated fish salvage facilities constructed and operational, and the flow control structures in Old and Middle rivers are constructed.

Following construction of any portion of the new intake, any diversions through the new intake will only occur through a screened facility at the new intake. Any diversions in excess of that amount will occur through the existing intake. After completion of the new screened intake it will be used first up to design capacity of the screen for diversions

before the existing intake is used. Before the new diversion is used, new fish salvage facilities will be constructed and operation plans developed that are acceptable to the fish and wildlife agencies.

All increased diversions above currently allowed levels would be subject to the operating criteria included in the project description. The new screens will be designed and constructed to ensure that approach velocities during February through August do not exceed 0.2 feet per second.

Mitigation

Habitat impacts associated with the construction or operation of the SDI element of Stage 1 will be offset by restoring additional terrestrial and aquatic habitat beyond the ERPP target acreages. Mitigation for implementation of the SDI element of Stage 1 will include; mitigation for construction impacts and dredging impacts on areas < 3 m at MLW, mitigation for terrestrial habitat impacts due to dredge spoil storage and placement, and mitigation of operational impacts by restoring 200 acres of tidal emergent wetland, 100 acres of tidal perennial aquatic habitat, and 25 acres of Shaded Riverine Aquatic habitat.

Adaptive Management

The OCT would play a pivotal role in any fine tuning required to meet the goals of the SDI element of Stage 1. Monitoring of the flow control structures and operational impacts on fish, effects on stage in channels with flow control structures, and effects on water supplies, circulation, and water quality could determine if any additional dredging and pump extensions are needed to address isolated problems. The OCT could evaluate monitoring data to determine the need for changes in agricultural discharge locations to address localized areas of low DO. The OCT could also assess the need for changes in flow control structure operations that may be needed to provide irrigation water supplies under drier conditions when south Delta irrigators may require water as early as the first half of March. Irrigation needs of asparagus farmers in the south Delta, who need to irrigate in the mid-winter, may also result in consideration of operational changes beyond the current proposed operating criteria.

An effective operating plan will ultimately be developed based on operation experience during a variety of conditions such as tidal cycles, seasonal tidal levels, local agricultural diversion rates, export diversion rates and timing, dissolved oxygen levels, river flows, and the salt load in river flows and local agricultural discharges.

Phased Decision Making

The SDI element of Stage 1 also includes a process for determining the conditions under which an additional flow control structure and/or other water management actions would be needed to ensure that adequate supplies of water are provided to farmers in the south Delta. This process would include:

- An evaluation of how effective the two flow control structures and dredging and intake extensions are providing the water supplies needed by south Delta farmers.

- An evaluation of how the two flow control structures and their operation affect fish in south Delta channels.

Flow control structure operations would be monitored to assess impacts on fish, effects on stage or water availability, and effects on circulation and water quality. Modifications could be considered if they do not result in adverse impacts on fish based on experience gained with using the new intake pumping capacity with low-head pumps.

The results if these evaluations would be provided to the OCT for review and discussion. Any recommendations for subsequent action would be made by the OCT to the CALFED agencies. Any environmental documentation required to implement those recommendations would be developed as needed.